McLaren ELECTRONIC SYSTEMS

SYSTEM MONITOR
VEHICLE TUNING AND CONFIGURATION TOOL

System Monitor is a software package for configuring and tuning automotive control systems. It has built-in support for motor sport systems and can be tailored to support third party control units.

System Monitor not only allows you to tune data for your program versions, but also manages those versions on disk, allowing them to be located quickly for programming or modification.

Familiar controls and extensive use of menus and accelerator keys make System Monitor easy to set up and to use, both at the track and at the test bed.

System Monitor supports configuration of logging for the ATLAS display and analysis software and both applications can run on the same PC.

Programming/Tuning

- Programming of unit with program and data versions
- Tuning of unit by modification of editable parameters including 1 and 2D maps
- Live tuning with verification; integrity checks to ensure synchronisation between System Monitor and the unit
- On-track tuning when linked by a suitable RF data connection to the unit
- Display of measurement parameters for live feedback
- Data Wizard to compare and merge data versions
- Management of program and data versions stored on disk
- Can be used with PUMA for automated tuning

Diagnostics

- Monitoring of unit errors and events
- Virtual parameters derived from measurements by user defined mathematical functions
- User definable alarms triggered by measurement conditions
- Configuration and uploading of engine and chassis history reports
- Enter a message and send it directly to the unit
- Read and display an area of memory on the unit

Configuration

- Configuration of parameter data to be logged in memory on the unit
- Configuration of parameter data to be transmitted over telemetry
- Programming of sensor and actuator calibration data
- Configuration of CAN transmit and receive messages
- Configuration of analogue and digital signals from MESL units.

Extendibility

- ActiveX interface provides functions for communication with unit, allowing creation of both custom measurement displays and unit commands
- Extensive on-line help with context sensitive links to the application

Scalability

- Supports multiple application programs on the same control unit
- Supports multiple control units

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What you need

- An ASAP2 file for each application program which will run on the unit. This describes the editable (configurable) and measurement parameters

- A hex file for each application, containing the program code and base data

- A link between the PC and the control unit. This can be either Ethernet, HDLC or CAN

Getting started

- Create a program version and data version for each application; these are more compact and faster to open and compare than the ASAP2 and hex files

- Create a project, linking together a program and data version for each application plus the screen layouts and other configurations you will make

- In the Parameter Explorer, find the editable and measurement parameters for all applications

Monitoring

- Program the unit with each of the program and data versions you have created

- Create windows displaying measurement parameters

- Create custom displays with the grid window, showing measurement values or freeform text in any cell

- Display bar and dial graphs for visual feedback.
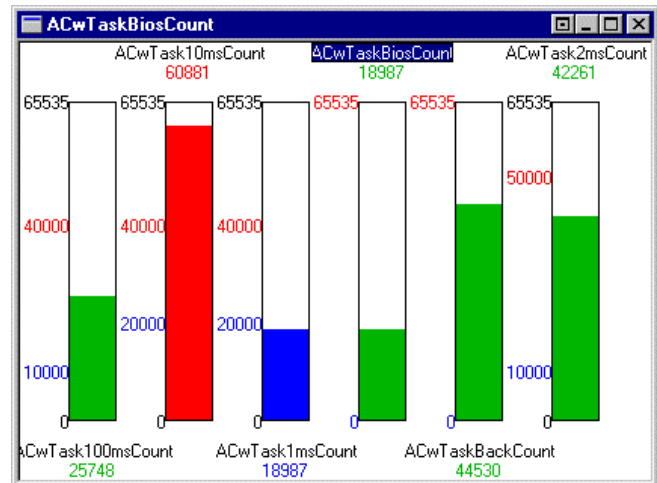
- Show changes over time with the oscilloscope window
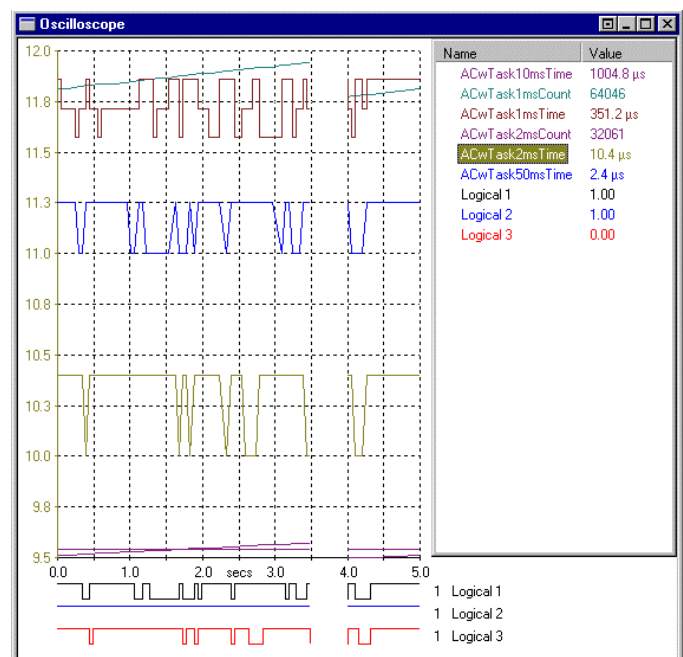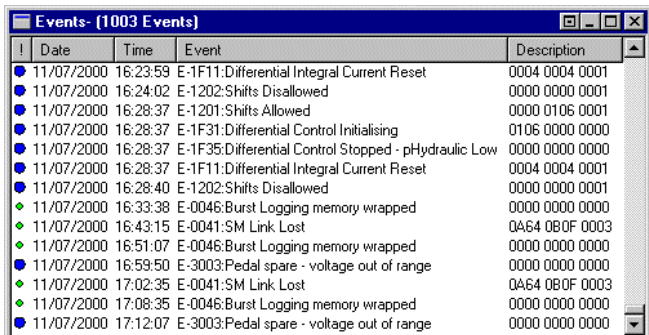
- System Monitor requests and receives on-line data from the unit, allowing you to observe the behaviour of each application as it runs

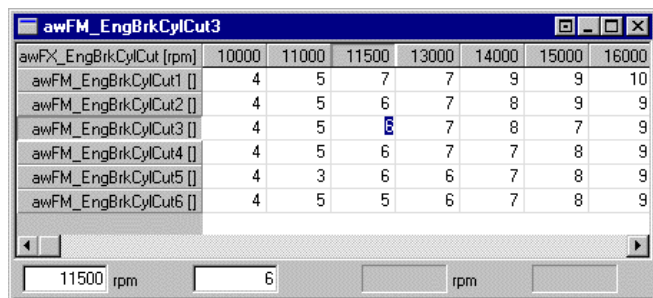# SYSTEM MONITOR
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- Create windows for diagnostics showing errors, events and areas of memory

Tuning

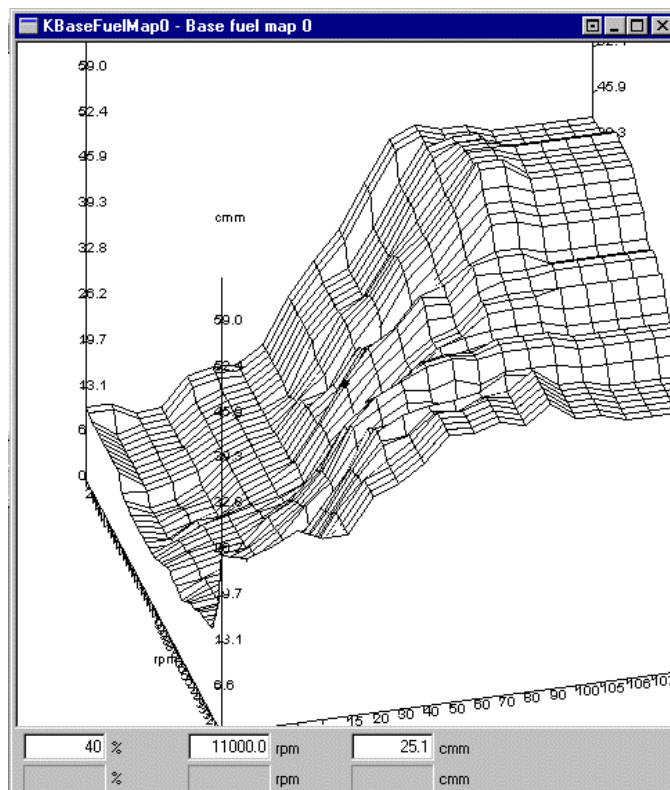- Create windows showing scalar, 1-axis map, 2-axis map, array and string parameters

- Change values by simply typing or by using the maths bar (eg +10%)

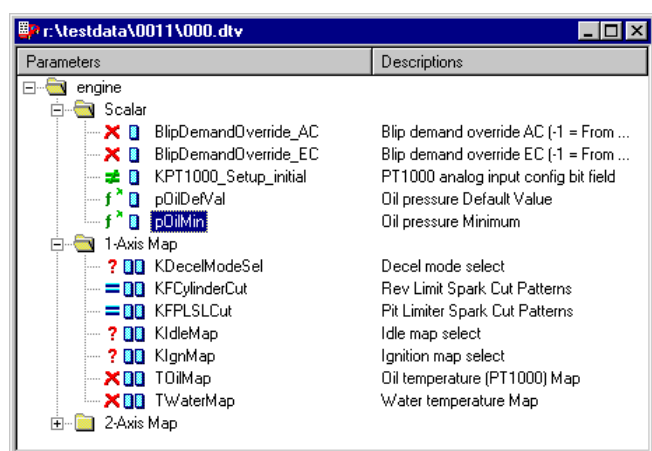- 1 and 2 axis maps can be viewed as **Graphs**. Change values by dragging points on the graph.

- Send changes to the unit as they are made or download all changes later

- Make adjustments easily using the rotary controls on the VE-81 Adjustment board, connected via the serial port

- System Monitor detects when the contents of its edit buffer differ from the contents of the live tune RAM on the unit

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Version Management

- Save your tuned data versions to directories reserved for each application

- Compare your tuned data with the base version or with tuned data from earlier program versions

- Select and merge parameters from earlier data versions

- Print reports for easy reference

Custom Commands

- Write your own commands and interfaces to help in your development process